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Questions of the Feed Lot

Professor Herbert W. Mumford
Illinois College of Agriculture

About Evergreen Sweet Corn

"WHAT is the comparative feeding value of evergreen sweet corn cut up in shocks, as against common Yellow Dent corn in the shock for fattening steers? Would it be advisable to put in five or ten acres for forty steers to fatten next winter, simply for variety? I generally feed shock corn mornings and snapped corn with clover and alfalfa hay evenings."

As far as I can learn the feeding value of evergreen sweet corn fodder is not greater than that of ordinary field corn. The advantage comes in being able to cut it earlier in the season. I certainly would not plant it for winter feeding, even to furnish variety, because of the fact that you cannot grow as great a tonnage or as large an amount of digestible nutrients per acre as with ordinary field corn.

Silage to Fatten Cattle

"WILL you kindly tell me if any experiment has been made on feeding "fattening cattle" on silage? My plan is to buy yearlings, turn them on good blue grass pasture through the summer, and in the fall bring them into a feed lot, feed corn silage and clover hay and finish on corn. Do you think this system would be profitable?"

The Illinois station has conducted three experiments involving the use of silage in the feeding of beef cattle. One test involved the feeding of silage in comparison with shock corn for beef calves intended for market; another, beef breeding cows which were being wintered, and the third, 2-year-old steers being fattened with silage in comparison with other forms of preparing corn, such as cornmeal, corn and cob meal, shelled corn and shock corn. In Illinois Bulletin No. 103 you will find a discussion on the use of corn silage as compared with other forms of feeding corn for fattening 2-year-old steers. I see nothing wrong with the plan you propose in the handling of the yearlings. However, I would suggest that the corn ensilage might be supplemented by cottonseed meal as well as the feeds you mention, corn and clover hay.

Alfalfa Produces Beef

ALFALFA is grown in most parts of the Argentine cattle country, but not to anything like the extent to which it can be grown. It is known that it will grow well for ten years and it is believed a fair stand will be maintained for forty years if not pastured too close. Modern machinery is used in some instances in bailing and stacking this crop.

A fine illustration of the value of alfalfa is seen in the experience of the manager of a 55,000-acre ranch, all in alfalfa. This much now actually supports more cattle than the 140,000 acres of the original alfalfa ranch in the native grass when this man took the place thirteen years ago. The alfalfa had much more than doubled the production of the land. Some cattle that are bred upon the native grass land are shipped to the alfalfa country to finish; at the monthly charge per head of stock, the alfalfa returns $7 to $9 per acre per year.

It requires from 1 1-3 to 1 2-3 acres of good alfalfa well cared for to support one steer and two sheep. This means 4,000 to 4,800 cattle and twice as many sheep per league of 6,672 acres. This seems equivalent to a steer per acre.

Knowing the great increase in yield and remarkable richness of alfalfa in protein, the most costly kind of food in a balanced ration, yet the wonderful significance of this crop cannot be understood unless it is remembered that in Argentina beef cattle are brought to the highest flesh and finish on grass and alfalfa without grain.

Things That Bring Quick Profits

By M. F. Greeley

Chickens Produce More for Uncle Sam Than Does Wheat

On the ordinary farm of America chickens are kept as a side line, and in many sections wheat is the "money" crop, yet chickens are worth more than the whole wheat crop. The Minnesota agricultural experiment station has determined by several years' experimenting that the wheat crop can be doubled by seed selection. The Maine station has proven that a breed of chickens can be developed by selection to lay almost three times the number of eggs produced by ordinary hens. Build trap nests to find out which hens "pay their board."

JUST about twenty-five years ago I bought a few sheep, and shortly after took Horace Greeley's advice and went west with them. I had about 125 of them, I remember; also two cows, a few swarms of bees and a lot of Brown Leghorn hens. These were all small things, calling for small investment, but, you see, they were all productive. It is the unproductive things—things that are neither growing nor producing—that drag down a fellow who is trying to pay for a piece of land.

I went from Waupaca county, Wisconsin, to where I now live in Dakota, and at the same time another Wisconsin man landed in the same neighborhood. This man did not bring any hens, but he unloaded four old horses, a threshing machine and a binder. When the sun went down on our first day in Dakota I noticed that my cows were chewing their cuds, made of something they had found going to waste; my sheep were full of grass and weeds, gathered on the unbroken prairie; my bees had made the acquaintance of many wild flowers, and my hens had gone to roost with full crops, containing mostly bugs, worms and weed seeds that otherwise would have done harm instead of good, but the old binder which my neighbor had brought with him had not made a move of any kind; neither had the threshing machine, and the horses were eating oats which their owner had to pay 75 cents a bushel for. Do not understand me as saying that old horses and old machinery have not a place in farm economy; but I did find that, while beginning, the less unproductive property of this kind I kept around me the better.

For three years I did not own a team. I kept the little money I had in chickens, bees and sheep, and gave two days' work for a team and man one day whenever I needed one. Although I came from New England originally I had run into debt for most of my land, and this debt had to be raised by the sheep, while the poultry's little job was to take care of myself and family. You know down in New England if a man wishes to borrow $50 he will consult all his neighbors about it, talk it over with his family for weeks and lie awake nights thinking about it for months—and then he won't borrow it; but let that same man take one sniff of northwestern air and he will run into debt for a steam thresher, a $2,000 stallion and 640 acres of land without even speaking to his wife about it.

I did not go into debt for all of these things, though, for I have often said I had rather have one good, live, business hen to start to make a living with than a steam thresher—I know how to run a hen and I don't know how to run a thresher is one reason for it—and again, the right kind of a hen will do a whole lot of business with very little outlay for repairs.

Well, to make a long story short, the sheep paid for my land and put up the greater part of my buildings, but all the time they were doing it the hens fed and clothed my family—yes, and paid the taxes on the land and sheep. There was much sickness in my family during those early years, with many seasons of discouraging drought and blight, and I do not believe that without the help of my poultry I should be the owner today of what I think is one of the best farm homes in the two Dakotas.

For years I kept a strict account of what my hens did. I had to keep accounts in those days; I could not afford to make mistakes; I had to make money and I found that with the right kind of hens, properly handled, I could clear about $1 a head above cost. These accounts were carefully kept, you understand, for when I began I had so little that to break an egg was a pretty serious matter, and if I tumbled down and broke a dozen or so going to town I broke the news to Mrs. Greeley pretty carefully when I reached home.

In the first place, after much experimenting, we kept only young, active, live, business hens. The large, big-eating, non-foraging, seldom-laying and everlastingly sitting kinds may pay better here, but where I am located the eggs are what we must look to for profit. Poultry flesh brings little, so we keep nothing now but Leghorns, though there are several other breeds about equal to these. A hen that lays early and long, is a great forager and nonsitter, must necessarily be more profitable for a farmer than one that is just the reverse of all this. Of course, where both eggs and flesh are desired, the Rocks, Wyandottes, etc., come in nicely. We keep a few of the former for sitters. Incubators have not yet come to our farm, and by putting two litters of chickens with one good mother we do not find it a very expensive method. Besides, it is economical in both feed and time, and we think we get slightly stronger chickens when they have the warmth of the live mother and the greater variety of food she gets for them.

I am no judge of the fancy points of a fowl, know little about bars of feathers or points of comb and could not "score" a hen properly to save my neck, but I sometimes feel like scoring men who award prizes regardless of whether the bird ever laid an egg or not—and then expect farmers to tumble over one another to get these birds—sometimes intimating that we are "mossbacks," whatever that may mean, if we do not.

I learned very early that to have lots of eggs I must keep lots of hens and keep them laying. They must be young hens and all hens. Old hens are no good on earth, and roosters won't lay worth a cent. So many farmers say poultry doesn't pay, and when I visit their farms I don't wonder they think so—hens of all ages, and nearly as many roosters as hens, and all of them of some great, clumsy breed that eat nearly as much as a cow and don't lay so very much more. They are usually bred "in and in," too, till they have about as little life and gumption as some of the royal families of Europe. A vigorous, fresh-blooded sire should be mated with a few of the best hens every season. When one has a small flock, to get a sitting of fresh-blooded eggs every spring or so is a good plan, and frequently two or three small flock owners can club together in this. It is an important point.

A small breeding flock, as well as the sitting hens, can be nicely kept separate from the others by a small portable yard and house, which can be set onto fresh grass or weeds every night after they are on their roosts or nests. The yard can be made of four wide boards and slats, not over one and a half or two feet high, and covered over with hen netting. They are much cheaper and more convenient and healthful than high-fenced, permanent yards and houses. The house, too, should be low, light and easily moved, with a small hole or door, to be placed opposite the one into the side of the portable yard.

A 2-year-old Leghorn, Hamburg or Minorca is not old. I have seven 4-year-old hens of the small breeds, still very profitable. When a hen is red-combed, bright-eyed, active and laying most of the time I never say anything to her about her age, any more than I would to one of you young ladies about yours. It just won't do.

In handling a large flock of good foraging hens on a farm it pays much better to fence the garden and let the poultry have free range than it does to reverse this procedure. A hen will make better use of a shock of wheat than any animal I ever saw get at one.

The hen quarters should be roomy, tidy, sunlit and comfortable. All the walls should be perfectly smooth. Nothing should be inside that is not absolutely necessary, and what there is should be easily portable and still more easily cleaned. A plastered, whitewashed wall is perhaps the best; next a smooth, tightly sealed one. If, between the ceiling and the outside wall, both overhead and on the sides, sawdust or dry, fine hay can be firmly packed, there will never be any damp or frosty walls, and the house will be very comfortable during the coldest weather.

The roosts should be large round ones, hung from the ceiling by wire, raised high in the winter and lowered to near the floor in summer for warmth and coolness. The nests should be small, neat boxes, hung on nails or spikes along the smooth wall, in a secluded or darksome part of the house. The roosts should be hung nearly level, but not quite; coming back each roost should be just a little higher than the one preceding it, for good reasons. The roosts should be often taken out and cleaned with kerosene or turpentine; the nests taken down frequently, thoroughly dusted and replaced, with a little sulphur and slaked lime in the fresh hay or straw put in them.

A dust box three or four feet square, six or eight inches high and kept filled with summer-saved dust and gravel is an all-important thing. And if a little sulphur and slaked lime can be sprinkled in the dust it will prove a mighty discouraging thing for all kinds of vermin. This box should be set where the sun can shine into it, or a hen will not get into it any quicker than you would.

Too much glass cannot be put into the south side of a hen house, if it can be curtained during the cold winter nights. I knew glass let in lots of sunshine and warmth, but I was surprised to find out one cold winter night that it was just as good a conductor of cold as of heat, and that if I curtained or shut off the windows by night it added greatly to the comfort of the fowls. If you are ever in a hen house on a cold winter night (I hope it will be your own) just notice this: A curtain of old carpeting or heavy gunny sacking to drop over the windows cold winter nights means much in comfort and eggs.

The best ventilation we have ever known for a hen house is one or more openings a foot or so wide and perhaps as long again, over which strong gunny sacking has been drawn closely. It stops all drafts but permits a fair circulation of fresh air. One of the best poultry men in my state has the entire front of one of his hen houses made with strong ducking drawn tightly on both sides of the studding in place of the usual sheeting and siding up. The house, though crowded, was sweet, dry and comfortable as a house could possibly be, and not a comb was frosted, although it was 40 below during the experiment.

I have found no better egg ration than wheat and oats in the bundle for forenoon and principal feed, with corn late in the afternoon, a good, warm, well-seasoned mash of some kind on cold mornings three or four times a week is greatly relished, particularly if mixed up in milk. The grain should be kept in the bundle and be fully three-fourths wheat. A little millet is excellent, fed in the straw. I save much labor and other expense by feeding hens, sheep and other stock their grain in the bundle. Early cut corn and oats fed this way to stock give most satisfactory results with me.

A steeply slanting floor in a hen house can be kept dry and clean much easier than a level one. Feed them bundle grain on the upper end, and straw and everything else will be scratched to the lower end, where there should be a small door to throw it out of. The hens will sometimes scratch it out themselves, if good live ones. A floor twenty feet long should be at least eighteen inches higher at one end than the other. Earth, gravel or cinders make a much better floor than boards, for a number of reasons.

With these surroundings and the birds and feed described, with plenty of fresh water and green food and a little fresh meat now and then, it is not a difficult thing to get both pleasure and profit from a large flock of poultry. Clean quarters, with ample range in summer, and as nearly as possible summer conditions in the winter time, are what insure success.

Answers by the Veterinarian

Dr. A. S. Alexander
Wisconsin College of Agriculture

Barley for Horses

IS BARLEY a good feed for horses? We have plenty of it here and little oats; but some men tell me that it is unfit food for work horses and may cause colic. What would you advise in this matter?—J. B. R., Minnesota.

Reply.—Horses in California practically live on barley hay. The grain is fairly satisfactory as a part ration for work horses, but it is prone to cause itchiness of the skin. It has to be bruised, but ground barley should not be fed, as it forms a sticky mass in the horse's mouth. Many people feed steamed barley to stallions and fattening horses. Such use of any grain helps to plump a horse, but the condition put on is not a healthy one. Sell barley and buy oats and bran. If you must use it let barley form but a sixth part of the ration with oats, bran and a little corn.

Ringbone

A 3-YEAR-OLD colt is going lame from a lump which has been gradually forming just above one of his forefeet. It is hard and he often holds that foot off the ground. I do not know how he got hurt and we can find no scar. Can the lameness be cured? —B. G., Nebraska.

Reply.—A ringbone of the forefoot is a very serious matter. When the hind foot is affected the lameness often may be cured by puncture-firing and blistering, followed by a prolonged rest. When the fore pastern is involved such treatment may fail, and especially so in young growing colts, as union fails to take place among the bones implicated. In that event unnerving is the only resort. Keep the part covered with cold, wet swabs and after removing the hair from enlargement paint with tincture of iodine three times a week. Later the more severe treatment may have to be given. Rest the colt in the box stall.

Heaves

I WOULD like some advice. I have a horse about 12 years old that I bought about four weeks ago and he had been brought from the city about two weeks before that. He was thin and badly run down, had worms and the heaves a little. I have given him bran mashes, oilmeal, turpentine and wood ashes. He has passed a few large worms and is improving very fast; has taken on some flesh and his hair shines, but I think he breathes harder and coughs more than when I got him, although he does not cough much, only after driving and watering. I notice his saliva is colored as though his food rises from his stomach. Can anything be done to help his breathing?—C. J., New York.

Reply—Heaves is incurable, but the distress may be greatly relieved by the following method of feeding and management: Allow the drinking of water before feeding. Do not feed hay or other bulky food at noon. In winter feed wetted oat straw in preference to hay, and in summer feed grass as the only fodder. Feed a mixture of dry bran and whole oats at the rate of one pound per 100 pounds of live weight as a day's ration. The bran may form one-sixth part of the concentrated food. Do not feed bran mash. If the horse is costive dissolve two ounces of glauber salts in the drinking water once or twice a day, as found necessary. For the heaves give half an ounce of Fowler's solution of arsenic night and morning. This will also relieve the cough. Do not work the horse soon after a meal. In these cases it is better to bed with baled shavings or sawdust, as indigestion is present, and affected horses often eat their bedding, which is injurious in heaves. Allow free access to rock salt. Carrots are excellent as an adjunct feed in this disease.

Suggestions of Value to the Busy Farmer

Garden Notes

THE toad is the gardener's best friend and the injurious insect's worst enemy.

Let a toad abide in the cold frame; it will destroy all bugs.

Tomato raisers save money with a home-canning outfit when markets are low.

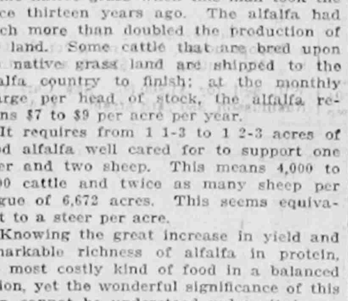
Do not plant much garden truck without a few years' experience; it may prove expensive.

That spraying potatoes pays there is no longer doubt.

The best-paying market is the local one, where arrangements can be made to sell directly to the consumer.

Always keep posted on the condition of the market and sell what and when people want.

Weeds take nourishment from the soil garden crops use for making good things to eat.



A THING ONE RARELY SEES NOW.

Working oxen on the farm, while practiced in the southern states and less progressive portions of the United States, has almost entirely gone "out of style." Beef is too valuable on the market to waste it drawing loads as seen in the illustration.

Seeds need air, warmth and moisture for germination. Do not let the seed bed dry out too much. Too much water is as bad as not enough.

In an experiment on the growing of potatoes farmyard manure at the rate of fifteen tons and sulphate of potash, 100 pounds, gave an increase of 63.34 bushels. Sulphate of potash, 100 pounds, alone gave an increase of 20 bushels; acid phosphate, 300 pounds, 25.42 bushels; sulphate of potash, 100 pounds, and acid phosphate, 300 pounds, 29.60 bushels increase. A complete fertilizer gave an increase of 10.84 bushels. The test shows that it pays to have a rich garden soil for potatoes, potassium being especially important.

Milo for Work Horses

THE dry-land farmer in eastern Colorado who plants a good acreage of milo and thoroughly cultivates it has practically insured for himself a good supply of grain for his work teams.

Horses and mules have stood hard work well all summer, such as breaking prairie, with no grain but milo.

Horses doing heavy farm work should be given three good feeds of milo grain a day. Milo in the head is usually fed, one-half more heads being given at a feed than would be given ears of corn.

Most teamsters prefer to feed milo in the head to horses, cutting the main stem off close to the head. The main stem of the head and the many little stems that hold the seeds force the horses to do a large amount of chewing before the feed can be swallowed, and this mastication grinds the grain and mixes it with the saliva, greatly increasing the proportion digested.

The seeds of milo are small, and where the threshed seed is fed to horses it is chewed very little and much of the seed passes through undigested.

The writer has fed milo meal to horses doing heavy farm work, giving them the same amount by weight as would be given of corn, and they have done well.

Feeding milo in the head saves all expense of preparation and the small stems of the head, eaten with the grain, seem to aid in diluting the grain in the stomach, making it more digestible.

Colts and horses not working may be fed milo fodder, stalks and heads, just as it is cured. Hogs will pick up the seeds which are shattered off and wasted.

Kaffir corn or early amber sorghum, planted in rows rather thickly and cut when in bloom with a binder, makes a good and conveniently fed hay to give horses whose grain feed is milo.—Professor H. M. Cottrell, Colorado Agricultural College.

Pigs' Growth Checked

PIGS weaned while very young, unless very carefully attended to, are likely to experience a check in their growth. There is something in the milk they obtain from their dams that seems to be essential to their proper growth and thrift. When weaned very young they seem to be more subject to disease, especially bowel troubles. This is especially true with pigs that come in the late fall months when the weather becomes cold and disagreeable. The pigs do not get sufficient exercise to keep them in a healthy condition. They eat so much food that is difficult to digest, pile up in a pen, in the straw stack, or, what is worse, in the manure heap, and shortly some of them are ailing. The best hog is the one that never knew a sick day from the time of its birth until slaughtered.

During Lambing Time

THE following experiment was undertaken to determine the amount of feed required to maintain a ewe before and after lambing:

Before lambing each ewe ate .5 pound cottonseed meal and 1.3 pounds hulls, gained 1.8 pounds during period and cost for each ewe was 35 cents per month.

After lambing each ewe ate .88 pound cottonseed meal and 2.35 pounds hulls, gained 1.5 pounds and cost for feed 54 cents per month.

At the beginning of the test the feed of those ewes in milk was made just double the amount given the dry ewes, so that the animals would be sure to not lose weight, but it was soon learned, as the ewes began to increase in weight, that a 100 per cent increase was more than necessary, so the amount was gradually decreased until it was brought down to the above average figures. They were carried along upon this basis for a period of seventy-three days. The ewes were practically maintained, as far as total weight was concerned, as they gained but one and one-half pounds for the whole time. In the test it required 75 per cent more cottonseed meal and 81 per cent more hulls to maintain a ewe when suckling a lamb than when she was dry and pregnant. Of course there are several factors that would be controlling ones in determining the amount of feed required for an animal after lambing, as the amount of milk given, but under conditions as they existed in this test the necessary increase in feed, when the animal came into milk, was not less than 75 per cent above that which she received when dry.

In an experiment on grade Angus cows, which shows the same thing, Professor Mumford of the Illinois university says: "It took approximately twice as much feed to maintain a cow suckling a calf as it did during her pregnancy."

Make Better Farm Homes

"WHAT will make the farm home a satisfying place? Evidently the only thing is to make the farm itself a satisfactory place for a home and to make country life a satisfying one. When young people find greater attractions in the country than in the city more of them who should stay will stay in the country. They are likely to be needed in the country more in the next ten years than they have been in the past, because we are rapidly approaching a time when it will be all the farmers can do to raise food enough for our own ever-increasing population. Our production is now limited not by the capacity of the soil, but by the scant supply of farm labor. If we keep our farm boys and girls at home for twenty years we can increase our crop production 50 per cent and in many sections 100 per cent. This increase in production cannot come without an increase in the supply of farm labor.

Not Wise to Mix Cream

THE practice of mixing warm fresh cream with the cream of previous skimmings, which has been cooled, is one of the greatest causes of poor quality of hand separator cream. The cold cream is warmed up and it soon sours. By the time it has warmed up in this way half a dozen times it becomes very undesirable. When the day for shipping arrives, stir the cream thoroughly and pour it into the shipping can. Rinse the shotgun cans with warm skim milk. Use as little milk for rinsing as possible, as a large quantity would not only make the cream very thin, but would raise the temperature to such an extent that the cream would reach the factory in poor condition. When the empty shipping can returns, remove the

VERY LITTLE DIRT FINDS ITS WAY IN THIS MILK PAIL.

One of the greatest sources of contamination of milk is through particles of dirt falling into the pail during milking. Therefore, the most sanitary milk pail is the one with fewest and smallest openings for the dirt to fall through.

cover and invert the can in pure air and sunlight until it is again wanted for the next shipment. Before the can is used again rinse with fresh cold water to remove any dust that may have lodged on the inside. A stiff brush, washing powder and hot water should be used for washing all dairy utensils, as undesirable flavors in butter are often traced to wash cloths and greasy soap. Milk pails, strainers and separator should be washed each time they are used and rinsed with fresh cold water before they are again used. Keep in the sun as much as is possible when not in use.

Washing, Cultivating and Manuring Fruit Trees

By Professor O. M. Morris
Oklahoma Agricultural Experiment Station

THE practice of washing trees with some kind of strong solution during the spring and summer is looked upon by many as one of the necessary operations in good care of the orchard. The object of this wash is to keep the trunk of the tree free from insects and diseases. It may be a benefit to the tree by softening the dry, hard bark on stunted and bark-bound trees. Most washes are used for the purpose of protecting the tree from the attacks of borers and for such purpose the value of many washes is doubtful. Soft soap is one of the best washes for young trees. It is cheap, easily made and can be made by any one. One pound of concentrated lye dissolved in two gallons of water is also a very good wash. Neither of these washes will entirely prevent borers and should be used only as one of the operations of cultivation and care necessary to keep the trees in a healthy growing condition.

The orchard should be given clean cultivation from the start. The trees should not be compelled to share the fertility and moisture of the land with other crops. If this method is followed from the start it will be much easier to keep the land free from weeds and to give the trees better care. They will reduce the labor of caring for the orchard to the minimum. Some kinds of crops can be grown in young orchards without doing much harm to the trees. The hoed or cultivated crops are all that should be planted between the trees and then the trees should have plenty of room. Early potatoes and such early maturing crops are best to be used for such purposes.

The cultivation should be primarily for the orchard and not for the crop. The moisture should be saved for the trees as much as possible. The sowed crops, such as wheat and oats, should never be grown in the orchard on account of preventing cultivation at the time it is most needed. The growing of all kinds of harvest crops should be discontinued under all conditions and circumstances after the orchard is four or five years old. The trees draw moisture from a much larger circle of ground than that covered by the top and by the time the orchard is five years old all the soil space will be drawn on for moisture.

The soil of orchard land usually contains a sufficient supply of plant food to produce large, thrifty trees and good crops of fruit. The addition of decaying vegetable matter to the soil is the best thing that can be done in most cases. This material should be applied in the form of manure and green crops as much as possible. The plant food contained in the manure and green crops is valuable when placed in the soil, but the improvement in the condition of the soil is often of even greater importance. The soil becomes more mellow and porous and is capable of holding much more water. The air can pass through the soil much better and carry on the work of decay much faster. The application of commercial fertilizer is not necessary in most cases and would not pay for the material used. Concentrated fertilizers should be used only on land that is in good physical condition and well cultivated. It may be used on other land, but it cannot yield its best returns on such land. Barnyard manure is the best fertilizer for most farms and for most crops. The use of lime and wood ashes is to be recommended if the land contains a large amount of humus and is free from alkali. Alkali lands can be improved by thorough drainage and the application of large quantities of manure.